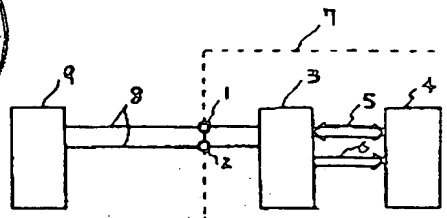


Patent Abstracts of Japan

PUBLICATION NUMBER : 60231285  
PUBLICATION DATE : 16-11-85  
APPLICATION DATE : 02-05-84  
APPLICATION NUMBER : 59088961

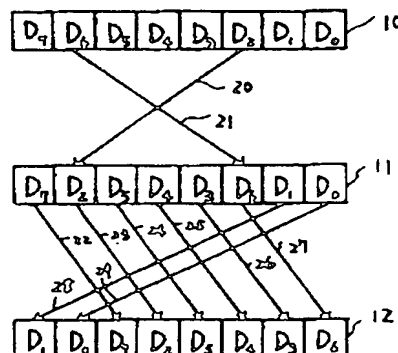


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INT.CL. : G06K 17/00 G06F 13/00 G06F 13/16  
G11C 7/00

TITLE : COMMUNICATION METHOD WITH  
MEMORY CARD



ABSTRACT : PURPOSE: To change a parallel/serial conversion format every data communication and to prevent communication data from being stolen or a memory card from data leakage or alteration by sending data for fixing the parallel/serial conversion format from a memory card in every data communication of an external apparatus with the memory card.

CONSTITUTION: At the data communication with the external apparatus 9, the memory 7 transmits the number of three digits using random numbers. When the number is "622" for instance, the transmission side replaces the bit  $D_6$  of data 10 by the bit  $D_2$  by the upper two digits of "622" to convert the data 10 into data "a11", the data "a11" are shifted to the right direction twice by the lower one digit of "622" to convert the data "a11" into data "b12" and the bits  $D_6-D_1$  are transmitted serially and successively. On the other hand, the receiving side receives the bits  $D_6-D_1$  successively and serially to convert the obtained bits into parallel data "b12", shifts the data "b12" to the left direction twice to convert the data "b12" into data "a11" and replaces the bit  $D_6$  by the bit  $D_2$  to obtain the data 10 as normalized data. If data are to be transmitted/received again after the end of transmission/reception, the data are transmitted from the memory card 7, so that it is difficult to find out the serial/parallel conversion format and the memory card can be prevented from illegal use.

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